

Pleasant Valley Roller Mill  
Gruber Road  
Bernville Vicinity, Pennsylvania  
Berks County

HAER No. PA-59

HAER  
PA  
6-BERN.V.  
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

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HISTORIC AMERICAN ENGINEERING RECORD

PLEASANT VALLEY ROLLER MILL  
PA-59

DATE: ca. 1741; rebuilt 1839

LOCATION: No longer extant; inundated ca. 1978 for Blue Marsh Lake Project, U.S. Army Corps of Engineers

DESIGNED BY: Unknown

OWNER: U.S. Army Corps of Engineers

SIGNIFICANCE: This handsome masonry building, minus its 1946 frame addition, is highly typical of canal-related mills in the region. Although it clearly reflects its proximity to the Union Canal, it occupied the site long before the Union finally opened in 1827.

HISTORIAN: Brian H. Guss, 1976

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## PLEASANT VALLEY ROLLER MILL

Bern, first settled in 1733 and named after what is today the capital of Switzerland, became a township in 1738. Berks County itself had been settled by the Swedes in 1701. They were followed by German settlers who moved into the Oley Valley in 1712. By 1752 most of Berks County was German speaking. The English arrived shortly before 1720, with the Ellises and Lees settling along the Manatawny, and the Boones and Lincolns along the Monocacy and Schuylkill.

As early as 1726, George Boone, grandfather of Daniel Boone, erected the first mill in Berks County--a two-story stone structure on the banks of Manatawny Creek, in Exeter Township. By the 1870's there were over 50 flour and grist mills operating in Berks County.

Wamsher's Mill in Exeter Township was erected in 1768, on a site traceable to a 1651 purchase from the Penns. Known as Bishop's Mill in the 1770's, it provided George Washington with 40 tons of flour as part of his April 1780 order to the Executive Council to procure 200 barrels of flour, 180 tons of hay, and 14,000 bushels of corn from Reading.

Along the Tulpehocken, named after the Tulpewehaki or turtle clan of the Lenni Lenape or Delawares, many mills arose. Cross Keys Mill, just outside the Blue Marsh Lake Project, was first founded by the Servey (Zerbe) family as early as 1736, not far from its present location. During the heyday of the Schuylkill and Union Canals, boats conveyed flour and corn to Philadelphia, the trip taking the greater part of a week. The return journey brought lime, gypsum, and merchandise for local merchants.

In the spring of 1723, 33 families moved to Pennsylvania from the Schohorie Valley and settled along the Tulpehocken and its tributaries the Northkill, Little Northkill, Licking Creek, Plum Creek, and the Cacoosing. Near the many mills that grew up along their banks, an industry developed that brought forth the old Union Canal. The grinding of flour was not only an occupation for the needs of the respective communities but a commercial problem of the day. The flour produced at the several mills was shipped to Philadelphia and New York. Markets by the Union Canal and grain warehouses, like Joseph Conrad's, were erected along the stream to store the flour in transit.

Of the early mills built along the Tulpehocken, one of the most prominent was the Hiester Mill, later known as Bechtel's Mill, now the Pleasant Valley Roller Mill. Built by Gabriel Hüster [sic] soon after the settlement of the township, and possibly as early as 1741, the 3-1/2-story masonry structure was rebuilt in 1839 by J. D. and Sarah Hiester, as attested by twin sandstone plaques originally embedded in the wall of the present mill.

Gabriel  
Huster  
1741

J. D. Hiester  
Sarah Hiester  
Rebuilt 1839

First mention of the land on which the mill now stands is in the original grant by the Penn family to one James Bingham in 1734. By the 1770's the land was in the possession of the Hiester family. On 1 August 1772, the land is granted by Daniel Hiester to Joseph Hiester, with no mention of a mill on it. But by 1778, Daniel Hiester had required ownership and on 29 October 1778 sold the land and "all that water, corn mill and saw mill, messuage or tenement and tract of land" to his son, Gabriel Hiester--"a tract of 9 acres of land and dam race and water rights"--for the sum of £ 638 5s.

Daniel Hiester, the father, had emigrated from Witzenstein, Westphalia, with his wife Catherine, and young Gabriel was born in Bern Township on 17 June 1749. A farmer before the revolution, Gabriel was appointed a delegate to the Pennsylvania Constitutional Convention on July 15, 1776, and was later a member of the House of Representatives for Berks County. On April 10, 1788, while passing through Wommelsdorf on his way to Harrisburg, Hiester remembered "some mills a few miles from thence at Tulpehocken Creek, which afterwards meets the road somewhat further in a very picturesque spot."

There is evidence that Gabriel improved the mill, having acquired on 29 November 1785 from John Uhrich, an adjacent landowner, the "privilege of widening the race leading to the mill not exceeding 24 feet, and the inlet at the dam as wide as necessary; also the privilege of building gates in the race...together with all...houses, outhouses, mills, barns, and other buildings, improvements, ways, woods, waters, watercourses," etc.

On 11 November 1825 Jonathan D. Hiester purchased the mill from Gabriel Hiester's estate. Jonathan D. rebuilt the old mill in 1839. His children, Gabriel, Edward, and Alex, sold the property to William Kerscher on 6 April 1865 for the sum of \$18,000--now listed as "a grist mill and saw mill [long vanished], 2 dwelling houses, 2 farms, and other buildings and improvements."\*

Shortly thereafter the mill was sold to John Reber and was known as Reber's Mill, a name that remained long after John Reber's death in 1883. In 1895 the Reber Mill was sold to Jonathan B. Miller. At some period between that transaction and the purchase of the land by Frank S. Richardson in 1919, the mill was shuttered and lay idle. Edward Fry

\* See appended plans of mill area, surveyed in 1864 and recorded at Reading County Courthouse 6 April 1865. Vol. 79, p. 476.

leased the mill sometime between 1900 and 1905 and put it back into operation. The old millstones--there were two sets of burrs--one for grinding corn meal and whole wheat flour and the other for grist, were removed in 1895, and the mill was converted from stone grinding to rollers. A third set of millstones was in use until 1963 for grinding feed, cracking corn, and grinding corn meal. Electricity replaced water power in 1947 and 1948, water having previously entered from a dam on the creek by way of a mill race and turned turbines that rotated the stones and operated the other machinery.

In 1919, Frank S. Richardson bought the mill and operated it until 1927 when he sold it to Edwin Bechtel, reserving the right to use the pump and pipeline inside the gristmill for water. Bechtel changed the name to the Pleasant Valley Roller Mill, for the locality in which it was situated. Bechtel was a millwright who came to Berks County with his brother Brank, then operating the Bern Township Mill for a Mr. Miller. Bechtel ran the Pleasant Valley Mill until January 1941, when he sold a half share to his son-in-law, Gordon J. Weidenhamer. Weidenhamer purchased the entire business and mill property in September 1945, built an addition for feed manufacture in 1946, and converted the operation to electricity in 1947 and 1948.

There, he and his wife produced White Rose Brand flour until quite recently. Business reached a peak in the late 1950's and then tapered off with the sale and subdivision of large tracts of rural land for suburban growth. The mill sold feed on a retail basis in Bern, Penn, Lower Heidelberg, and Jefferson Townships, and in Lebanon County. Flour was delivered as far away as Pottstown, Boyertown, and Hamburg. The mill also produced a full line of animal and poultry feeds and an extra line of horse and dog feed. From 1865 until about 1900, a small post office operated inside the mill.

At its height, the mill showed considerable profit. The Seventh Census of Berks County Manufactures, 1850, reveals an \$8,000 capital investment in the then Hiester Mill. Utilizing two hands at \$15.00 per month, J. D. Hiester turned:

2080 bu. wheat	- valued at \$2000	- into:	516 bbl. wheat flour
1500 bu. rye	- " " \$ 825	- "	300 bbl. rye flour
1500 bu. corn	- " " \$ 825	- "	450 bbl. corn meal

- Valued at a total of  
\$4605

for a clear profit of \$955.

Mrs. Gordon Weidenhamer and her son continued to run the old mill after her husband's death in 1966 until its purchase by the U.S. Army

Corps of Engineers for the Blue Marsh Lake Project in 1972.

## ARCHITECTURE

Referring to the appended Diagram I, the building, in 11 basic sections labeled "A" through "K," may be described as follows:

Section A, the original 1741 mill, is three stories with basement, of stone construction with a gable roof covered with composition shingles, and a combination stone and concrete foundation. Interior framing is of semi-mill construction with plank subfloors and hardwood finished flooring. There is a partial basement with stone walls and a wood floor. Behind the basement area is the raceway, which is no longer used. The first floor has a small office area with minimum finish. The balance of the first floor and the second and third floors except for mill equipment are basically unfinished. Wiring is a combination of conduit and BX. There is no heat except for the office.

Sections B, C, D, E, and F are an addition made to the mill in 1946. Section B is two-story frame with a basement. Section C is three-story frame with a basement. Sections D and E are one-story frame. Section D has a basement used for a bulk loading area, and Section E has a basement. Section F is a concrete ramp into the basement area of Section D. The foundation is concrete, the basement walls are concrete block, basement floors are concrete, interior framing on the basement level is 12" x 12" timber post and beams. Wiring is conduit and BX. The first floor joists are oak, 3" x 12" x 16" on center, and there is a diagonal subfloor. In addition to the two loading areas, there is the electric service room, a furnace room, a small locker room, and a storage room in this area. The first floor of Sections D and E is open clear span storage space. The first floor of Sections B and C has mill equipment. Exterior walls of the upper floors of these sections are frame with asbestos shingle siding and a roll composition gable roof.

Sections H and I are one-story frames with Section H having a basement and Section I having a concrete pier foundation. Exterior walls are asphalt shingle over frame, and the roof is a shed type with oak composition roofing. The first floor of Section H is used for the flour mill equipment, and the first floor of Section I is used for storage.

Section J is a framed two-story addition to the building on a heavy concrete pier foundation. Exterior walls are asphalt shingle, the roof is shed type with roll composition roofing. This is a two-story section and is used for storage.

Section K is a concrete platform for the two steel grain tanks.

The equipment located in this property is mostly of Sprout Waldron mill manufacture, consisting of pellet mill, grain cleaner, bucket

elevators, screw conveyors, automatic bagging scales, bulk storage bins, a complete 22-ton bulk flour bin installation to load bulk trucks (manufactured by J. H. Day Company), a complete 40-barrel capacity per 24-hour flour mill system with four-case double roll flour mills, level sifter, flour packers, hammer mill, molasses tank, corn sheller, corn crusher, boiler, truck scale, dormant platform scale, deep well, boiler, oat crimper, vertical box mixers, Burton miser unit, bulk storage tanks, main electrical power distribution. A fully itemized list is appended.

This equipment was disposed of as follows: two sets of burr stones were sold by the former owner to the Old Water Mill Museum, Water Mill, Long Island, New York. Four finely turned interior columns are now in the possession of the Historical Society of Berks County. Much of the modern inventory was sold to the Jericho Historical Society, Jericho, Vermont, which was in the process of renovating the Old Red Mill, a National Historic Site, as a living museum of industrial history, and to Swatara Creek Mills, Myerstown, Pennsylvania. Two turbines, some chutes and hoppers remain on site.

Architecturally speaking, before later additions obscured the original design, this was a handsome masonry mill, associated with an equally handsome and now non-existent masonry miller's house across the road (see photos of scale model by Lt. Col. S. J. Newsom). Its features are typical of canal-related water powered grist mills, and it has a particularly handsome arched raceway and four fine turned columns in the interior supporting the second floor.

The South addition (B-F) is in fair condition, but the remainder of the building has been heavily salvaged and vandalized to the point of being in extremely poor and hazardous condition.

The original rectangular structure of uncoursed limestone rubble contained three stories in the front and four at the rear. Red sandstone was used at the quoins, lintels, contrasting with the gray of the locally obtained dolomitic limestone. Decorative "S"-shaped anchor bolts were used to brace the walls. The walls are masonry bearing with heavy timber mill construction using posts and girders. The original interior was a modified open space to accommodate changes in processes. Basic features were hoistway with door openings front and back, raceway, turbines, and turbine shafts with connections above. The office was placed in one corner of the first floor. There was no central heating. Stoves were utilized, as well as a fireplace in the office (cf. Gruber Wagon Works). Simple lighting system used bare bulbs in porcelain fixtures.

The modern frame additions are sheathed in asphalt and asbestos shingles and are of negligible architectural merit.

## GRISTMILLS AND ROLLER MILLS

For the following information on the milling industry in the United States I am heavily indebted to HAER historian Dennis M. Zembala's work in the West Virginia survey. According to Zembala, American milling underwent a major technological revolution during the period from 1870 to 1910. Before that time, milling had remained much the same since Oliver Evans's innovations of 1790. Evans automated the flour mill by utilizing a series "of conveyors designed to make a small water-driven mill a virtual 1 or 2 man operation." This was later elaborated, but the grinding process remained the same. Grain was ground between stone burrs "set close together to produce as much flour as possible in one run." This product was then "bolted" to separate the fine particles (flour) from the coarse (middlings) and the still coarser chagg (tailings).

In 1870, Edmund LaCroix, a French immigrant in Minneapolis, constructed a still more efficient purifier which allowed the middlings, formerly only good for coarse ship's bread or porridge, to be reground by separating them from the bran. The new superior flour produced was labeled "patent flour." Its durability encouraged acceptance of the "New Process" technique, in which the stones were set far apart to obtain the greatest amount of middlings possible. In this "gradual reduction" process, the grain could be ground as many as seven times and run through a purifier between grindings. The first grinding produced as little flour as possible. Setting the stones far apart eliminated the heat of friction which had discolored the flour and reduced its rising ability (Charles B. Kuhlman, The Development of the Flour Milling Industry in the United States, Boston, 1929).

The next major improvement lay in the adoption of the Hungarian system of using rollers instead of stones. The new rollers took up less space and produced more middlings. In the first reduction, grain passed between two cylindrical rollers of chilled iron and twisted until it cracked, separating the starchy interior portion from the hull (chaff) and germ. Then the interior was reground. Each purification eliminated more undesirable parts and produced more flour and middlings. The resultant flour was of the highest quality.

The first all-roller mill was built for C. C. Washburn in Minneapolis in 1878. By the late 1880's it was the common form for new mills throughout the country. The Hiester Mill switched to rollers (steel ones) in 1895 but retained one set of old burr stones, still using them until nine years before the mill's closing in 1972. Water power so necessary to the proper operation of a roller mill and its purifier (in Pleasant Valley's case, a silk-covered sifting drum) was provided by a water turbine which rotated the stones and ran the rollers. Turbines had an efficiency of almost 80%, did not freeze up in winter, and required less gearing to get up speed than would a comparable vertical water wheel. Unlike many mills, where steam power was soon required, Pleasant Valley jumped a step and in



fact was not even electrified until 1947. The retention of the old burr stones argues the difficulty of assessing the pace of changing tastes. As the new rollers produced a whiter flour yielding an airier, higher loaf of bread, the rural areas were somewhat slow to catch on, country folk still preferring the hearth stone taste of the old burr-ground loaves.

Pleasant Valley's growth was in some degree linked to its access to the Union Canal, although its prosperity did not ultimately depend on that ill-starred waterway. When the canal faded, the mill and others in the area continued to prosper. This may have reflected the largely local nature of its market. As one of a dozen mills in the Bernville area, including Kahlbachs, Cross Keys, Lamm's, Kissling's, and Showers, the Hiester-Reber-Pleasant Valley Mill's fortunes were inexorably linked to those of that stream which joined them all. The Tulpehocken and its tributaries provided power for the turbines, transport for the goods, and ultimately will provide a final resting place beneath the encompassing waters of Blue Marsh Lake.

Inventory of Milling Machinery

Pleasant Valley Roller Mill

BASEMENT

ITEM #1

- 1 Hammer Mill, heavy duty, Sprout-Waldron, Muncy, Pa., Type 18, Serial #184, 21"x20" top opening, attached blower, direct motor driven by Allis Chalmers 60-horsepower mill type motor 3/60/220-440 volt, 3550 RPM steel plate motor, mill base, motor, controls, wiring and installation.
- 1 Concrete pad foundation for above.
- 1 Bank of 2 - 7.5 KVA capacity capacitors for above motor.

Total Item #1

ITEM #2

- 1 Corn cob crusher Sprout-Waldron, Muncy, Pa., 18" wide, mounted atop hammer mill, including Reliance 7-1/2 horsepower motor drive, controls, wiring, and installation.

ITEM #3

- 1 Corn sheller, C. O. Bartlett-Snow "Triumph" #100, #S-8601, 4 - V belt motor drive from Westinghouse 7-1/2 horsepower a.c. mill type motor, 3/60/220-440 volt, 1750 RPM wood supports, controls, wiring, and installation.

ITEM #4

- 1 Molasses storage tank, 1200 gallon capacity 1/4" welded steel fabricated, 65" dia. x 12' long, horizontal flat ends, 3 - wood dunnage

saddle supports, 2"x2" cast iron rotary pump coupled to Master 3 h.p. a.c. motor 3/60/220-440 volt, 1725-84 RPM pump, base, controls, piping, wiring and installation.

ITEM #5

Low Pressure sectional cast iron Steam Boiler, Weil-McLain Size 028-S-6, Series 1, 12 - 15 horsepower oil gun type burner, tankless size 101, water heater, including piping to pellet mill (first floor), controls and installation.

550 gallon capacity underground oil storage tank including installation.

ITEM #6

Deep well and water softener unit, approximately 75' deep 3" casing, 2" dia. pipe, Meyers "Ejecto" deep well pump, fractional horsepower motor drive, 40 gallon capacity galvanized iron water storage tank, Stoner "Pacemaker" water softener unit, including plastic brine solution tank, including controls, piping and installation.

ITEM #7

- 1 Scourer Aspirator, Entolater Div. Safety Industries, Inc., New Haven, Conn., Cat. #111226, Ser. #1103, all steel case, pipe column supports, top mounted all wood frame, 16"x40" screen top, fractional horsepower motor vibrator, U.S. 2 horsepower top mounted vibrator unit, Sprout-Waldron type 2-AM steel plate blower, Ser. #1333, Marathon 2 horsepower a.c. motor

3/60/220 volt, 1715 RPM including controls, wiring and installation.

ITEM #8

- 1 Super Grain Cleaner, 3 screen 2 air S. Howes Co., Inc., "Eureka" size 4, machine #105515, factory #31832, 680 RPM including screens, steel plate air suction fan, base mounted 6" dia. x 8' long spiral screw conveyor wood case; 13'- 2-3/16" steel shafting for drive, 3 hangers, 36" dia. 4 groove drive sheave, V belts, Westinghouse 5 horsepower a.c. motor 3/60/220-volt 880 RPM (ceiling mounted), including drive to screw conveyor, millwright, controls, wiring and installation.

ITEM #9

- 1 Mixer, Burton-Feed Mixer Co., Mfg. Div. Oswego, Mich. Size #20, 1-ton capacity rotary drum type, 60 bushel cubic working capacity, 60" dia. x 60" wide drum, steel frame supports, chain-sprocket drives, 2 horsepower a.c. motor drive 3/60/220-440-volt, 1750 RPM including controls, wiring and installation.

ITEM #10

- 1 Flour bag cleaner, manufacturer unknown, 48" dia. x 40" wide, wood frame and galvanized sheet metal fabricated, chain-sprocket drives, pulleys, leather belting. (Not in use.)

ITEM #11

- 1 Screw Conveyor, 6" dia. screw, 10' long, wood case, sheet metal lined, chain-sprocket drive, installed.

ITEM #12

- 1 Screw Conveyor, 4" dia. screw 12' long wood case, sheet metal lined chain-sprocket drive, installed.

ITEM #13

- 1 Screw Conveyor, 4" dia. screw, 36' long wood case, sheet metal lined, chain-sprocket drive, installed.

ITEM #14

- 1 Bucket Elevator 13' high double open leg, 6"x6" wood case, 3-1/2" canvas belt with 3"x3"x3" galvanized iron buckets 18" on centers, shaft driven, including fabrication and installation.

ITEM #15

- 1 Main drive shaft for flour mills consisting of:  
30' - 2'7/16" dia. steel shafting  
3 - ring oil bearing drop hangers  
4 - ring oil bearing post hangers  
4 - 6"x6"x8" high wood post supports for shaft hangers
- 2 13 - steel split drive pulleys (various sizes)  
1 - Westinghouse 30 horsepower a.c. motor drive 3/60/220 volt 1160 RPM Serial #8110846  
1- 100 amp safety switch  
1 - Magnetic starter  
1 - 7.5 KVA capacity power factor capacitor  
1 - Concrete foundation for motor, including millwright, wiring and installation.

ITEM #16

Truck loading ceiling mounted screw conveyor Sprout-Waldron 10" dia. screw 27' long, 12" steel plate case, with cover, 2 outlets end chain-

sprocket drive, including gear-head motor drive, 2 - Wood frame supports, motor, control wiring, millwright and installation.

ITEM #17

- 1 Molasses Mixer installation, Sprout-Waldron Co., consisting of:
  - 1 - Type F-150-55, 150 cu. ft. 2 ton capacity "Vertomix" vertical batch mixer Ser. #7868, top mounted motor driven agitator drive, steel frame support.
  - 1 - 100 cu. ft. 1-1/2 ton capacity vertical batch mixer.
  - 1 - Customix molasses mixer unit, including motor-drive, pump, meter unit, steel stand, piping, wiring and installation.

ITEM #18

- 1 Pellet Mill, Sprout-Waldron Co., Jr. Model, 2 ton capacity per hour type 183, Serial #921, 6x32 crumbler unit, Ser. #523, screen Ser. #986, including cooler, bucket elevator, blower, grader, collector, 25 horsepower motor drive, controls, wiring and installation.

ITEM #19

- 1 Bagging Scale, automatic, Richardson Model G-38, 100 lb. capacity, ceiling suspended with hand controls, bag clamp and to include installation.

ITEM #20

- 1 Truck Scale, Howe, Model PAAPPDH-2 Serial #1030028, 40,000 lb. capacity, double beam, including 8'x18' wood plank truck platform, 8'6"x19'x4' deep platform pit,

iron bound, 12" concrete walls including installation.

ITEM #21

Ceiling suspended monorail system for bag sewing machine, consisting of:

- 115 - lineal feet 2" steel track.
- 9" high C clamp track hangers, with 14" high steel rod supports, 3' on center.
- 1 - Manual track switch.
- 1 - Thor 85 lb. capacity tool balancer reel.

ITEM #22

Dormant Platform Scale, Fairbanks, #5, 48"x36" steel deck platform, single beam, cast iron column supports, to include installation.

ITEM #23

Oat Crimper, Gibson Oat Crusher Co. Chicago, Ill., with 1 horsepower a.c. motor drive, 3/60/220-440 volt, 1750 RPM including wood support, controls, wiring and installation.

ITEM #24

Installation of 2 Columbia Steel Tank Co., vertical bolted steel storage tanks, each: 11'8" dia. x 32'2" high, 12 and 14 gauge steel, flat top-bottom, 2740 bushel capacity, including:

- 1 - 26'x12' precast reinforced concrete platform support, 4 - 12"x30' long I beam supports.
- 2 - 24"x8'x12' concrete column supports including fabrication and installation.

ITEM #25

- 1 Steel screw conveyor bottom of Columbia, steel tanks, 6" dia. screw approximately 32' long, wood 10"x10" frame case, made up of 2"x8" plank inner case, sheet metal lined, wood cover, including chain-sprocket drive.

ITEM #26

- 1 Blower Unit for air agitation, Roots-Connersville size 2-1/2"x 2-1/2" direct connected to 2 horsepower a.c. motor drive, including control, wiring and installation.

ITEM #27

- 1 Galvanized iron storage tank, Buckeye 24' dia. x 19' high, 7000 bushel capacity pre-fabricated, bolted, conical roof, flat bottom, access door, concrete block and concrete floor, foundation, including erection.

ITEM #28

- 1 Bulk Flour 22 ton capacity Tank System for loading bulk trucks, Order #3206, J. H. Day Co., Sub. of Hart-Carter Co., Minn., Minn. consisting of:  
1 - 9'6" dia. x 14'6" high, 12 gr. gal. bolted construction flour bin with auslide discharge, manhole door, 14 ga. cover, support ring.  
1 - Type FD, size 174 x 20 feeder valve, Ser. #592, with Louis Allis 1-1/2 h.p. motor drive, 3/60/220 volt, 1735 RPM.  
1 - 48" dia. x 10'6" high overall 2300 lb. capacity weightank, galv. bolted construction, pipe column support, 4'x4' diamond

plate platform.

- 1 - Type FA, pneumatic feeder valve unit, size 11-1/2 x 8 Ser. #593 with G. E. 3/4 h.p. motor drive, 3/60/220-440 volt.
- 1 - Motevator package unit, Roots-Connersville type RAI-V, size 44, Ser. #6479-21, V belt drive to Louis Allis 5 h.p. motor 3/60/220-440 volt, 1750 RPM.
- 1 - Howe Model BM double beam scale, Ser. #61-18462 with over-under attachment double steel column support, including: 3" dia. aluminum conveying tubing, elbows, fittings, vibrator pad on scale bin, sight-glass spouting from mill to scale bin and holding bin.
- 1 - 8" H column structural support system with 4 - 8" H columns, 13' high, 4 - 12" I beam supports, 14' long, 4 - 12" channel tank cross supports, concrete column foundations.
- 1 - 14'x14'x23' high wood fabricated bulk flour system upper enclosure 4x4 studding, corrugated transite sheathing, 2x8 roof rafters, plastic corrugated light panels, asphalt shingle roof, including controls, wiring and erection.

ITEM #29

Flour roller mill installation

consisting of:

- 4 - Stands of Case double roller mills, 15" wide x 6" dia. rolls, wood enclosure, tight-loose pulley drive, manual clutch, leather belting to drive shaft in basement, including installation.

ITEM #30

- 1 Sack Packer, Richmond City Mill Works, Richmond, Ind. 100 lb. capacity bag manual bag clamp bevel gear drive, jack shaft, leather belting, including installation.

ITEM #30

- 1 Sack Packer, Richmond City Mill Works, Richmond, Ind. 100 lb. capacity bag manual bag clamp bevel gear drive, jack shaft, leather belting, including installation

ITEM # 31

- 1 Sack Packer, S. Howes Co. "Jewel Sack Packer, 15-25 lb. capacity, bevel gear drive, steel shaft V belts, 2 h.p. a.c. motor 3/60/220-440 volt, 1725 RPM control, wiring and installation.

SECOND FLOOR

ITEM #32

- 1 Flour Sifter, Wolf Co., Chambersburg, Pa. Size 145-8-48 "The Level Sifter" 190 RPM automatic control roller bearing self balancing Serial #11956, 11'6" x 53"x18" high screen case, wood dowel supports, steel split pulley leather belting jack shaft, leather belting to base line shaft, including millwright and installation.

ITEM #33

- 1 Dust collector Sprout Waldron 30" dia. x 18" high to 30" dia. to 10" dia. outlet, 6' tapered cone, including piping and installation.

ITEM #34

- 1 Corn cutting and grading unit, Sprout-Waldron Co., type 1 1/2J with #18 screens, on cutter, #11 perforated metal main top screen on grader, Scr. #2696, with Westinghouse 7 1/2 h.p. a.c. motor drive, steel plate blower #83 including control wiring and installation.

ITEM #35

- 1 Hopper Scale, Richardson Scale Co. Type R.S. 6 bushel capacity 360 lb. capacity, Scr. #42889, including control, support, wiring, and installation.

THIRD FLOOR

ITEM #36

Flour Reels, Fleetwood Flour Bolt, size 8'x32"x48" high overall wood frame case, cloth inner screen, chain-sprocket drive from shaft.

ITEM #37

Bran Duster, Richmond Mfg. Co., Richmond, Ind., all wood case, horizontal, leather belt, shaft driven.

ITEM #38

- 2 Bucket elevators 41' high, base to third floor level, double open leg, 6"x6" wood case, 3" canvas belt, 3"x3"x3" galvanized iron buckets, 12" on center shaft driven including fabrication and installation.

ITEM #39

Same as above 30' high.

ITEM #40

Same as above 20' high.

ITEM #41

Same as above 22' high.

ITEM #42

Bucket Elevator 46' high base to third floor level, double open leg, 8"x6" wood cane, 5" canvas belt, 4 1/2"x 3 1/2"x 3 1/2" galvanized iron buckets, 12" on centers, shaft driven, including fabrication and installation.

ITEM #43

- 2 Bucket Elevators Sprout-Waldron Co.  
10"x8" steel case, double open leg type,  
46' high including head and tail drive  
units, 6"x5"x4" galvanized iron buckets  
10" on centers, above driven by 1 -  
common motor 3 horsepower gearhead,  
900 RPM including fabrication, controls,  
wiring and installation

ITEM #44

- 2 Bucket Elevators double open leg,  
41' high third to first floor,  
9"x13" wood case, 5" canvas belt,  
4"x4"x3" galvanized iron buckets,  
12" on centers with V belt drive, 3 h.p.  
a.c. motor 3/60/220 volt, 1735 R.P.M.

ITEM #45

- 2 Screw Conveyors, to outside storage  
tanks, 6" dia. steel screw, 40' long,  
wood case, sheet metal lined, includ-  
ing cover, chain-sprocket drive from  
line shaft.

ITEM #46

- 1 Screw Conveyor to storage hopper,  
9" dia. steel screw, 20' long wood  
case, sheet metal lined, wood cover,  
chain and sprocket drive from line  
shaft.

ITEM #47

- 1 Dust Collector from hammer mill,  
42" dia. x 24" upper body, 42" dia.  
to 10" dia. tapered base, 7' high,  
galvanized iron fabricated including  
installation.

ITEM #48

- 1 Screw Conveyor 6" dia. screw,  
32' long, 10"x9" wood case,  
sheet metal lined, wood cover,  
chain-sprocket drive from line  
shaft.

ITEM #49

- 1 10'x10'x10' high bulk storage  
bin 3 compartments fabricated  
of 1" D.M. Pine, 4"x4" and  
2"x4" studding approximately  
580 square feet of walls.

ITEM #50

- 1 10'x8'x14' high bulk storage  
bin 5 compartment, fabricated  
of 1" D.M. pine, 4"x4" and  
2"x4" studding approximately  
812 sq. ft. walls.

ITEM #51

- 1 Irregular shaped bulk storage  
bin, 10'x6'x6'x4'x4'x10' high,  
3 compartments fabricated of  
1" D.M. Pine, 4"x4" and 2"x4"  
studding approximately 500  
square feet of walls.

ITEM #52

- 1 8'x9'x10' high bulk storage bin,  
1 compartment, fabricated of  
1" D.M. pine, 4"x4" and 2"x4"  
studding approximately 340 sq.  
ft. of walls.

ITEM #53

- 1 18'x9'x10' high bulk storage bin  
4 compartments fabricated of  
1" D.M. pine 4"x4" and 2"x4"  
studding, approx. 780 sq. ft.  
of walls.

ITEM #54

- 1 4'x4'x10' high bulk storage bin  
1-compartment, hopper base,  
fabricated of 1" D.M. Pine 4x4  
2x4 studding approx. 160 sq.  
ft. of walls.

ITEM #55

- 1 5'x9'x10' high same as above  
280 square foot walls.

ITEM #56

- 1 Irregular shaped bulk storage bin  
4 compartment 25'x13'6"x10' high  
fabricated of 1" D.M. pine, 4"x4"  
and 2"x4" studding approximately 900  
square feet of walls.

ITEM #57

- 1 Bulk storage bin 2 compartments  
second to first floor, 18'x9'x20'  
high fabricated of 1" D.M. Pine 4"x4"  
and 2"x4" studding approximately  
1260 square feet of walls.

ITEM #58

- 1 12'x12'x10' high bulk storage bin,  
1-compartment fabricated of 2" plank  
4"x4" and 2"x4" studding, approximately  
480 square feet of walls.

ITEM #59

- 1 Installation of wood fabricated  
spouting from bins to bucket  
elevators, machines and packaging  
area.

ITEM #60

- 1 Grain Storage Hopper type building  
6-bins, 15'6"x16'x35' high, 2"x8"  
floor joist 16" cneteres, wood D.M. floor,  
walls fabricated of 2x4 laid flat, hopper  
base, asphalt shingle coated exterior,  
asphalt shingle roof, concrete pier  
supports.

ITEM #61

- 1 Installation of 400 amp main electrical  
power distribution for power to  
machinery consisting of:

1 - 400 amp safety switch.  
3 - 100 amp safety switch  
9 - 60 amp 60 amp safety switch  
15 - 30 amp safety switch  
1 - Trumbull metal fuse block  
enclosure with 4 - 60 amp procelain  
3 cartridge fuse blocks, 1 - 30"  
amp porcelain 6 cartridge fuse blocks,  
2 - 30 amp porcelain 1 cartridge  
fuse blocks, 2 - 30 amp porcelain  
1 cartridge fuse blocks, 2 - 30  
amp porcelain 2 cartridge fuse blocks.

1 - G. E. Model 9T22Y113 10 KVA  
transformer Serial #W.T., rigid  
conduit size 1/2" to 3" with 4 wire  
approximately 2515 total lineal feet.

ITEM #62

Underground fuel storage tanks,  
1 - 550 gallon gasoline;  
1 - 550 gallon kerosene, including  
excavation and backfill.

NOTE: Manual kerosene pump and  
electric gasoline pump are property  
of others and are not included in  
this report.



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